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# Poster Book

**IIIDBEE X 2023**  
20 JANUARY 2023  
International Invention, Innovation & Design Exposition  
for Built Environment and Engineering 2023

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# Pedestrians' Level of Satisfaction of Walkways

## Case Study: Kota Bharu

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## INTRODUCTION

Walking is a way of moving from one point to another on foot. The pedestrian is a key part of the city's traffic system while a pedestrian walkway is an important aspect of traffic management especially in an urban area. There are more than 500,000 road accidents including pedestrian deaths each year on the world's roads (WHO 2020). The lack of quality space, expose pedestrians to greater traffic accidents i.e. risk.

## ISSUES/ PROBLEM STATEMENT

Pedestrian facilities must meet pedestrian specifications, guarantee protection, and provide comfort to pedestrians. The pedestrian walkway is closely linked to the environment, activities and human movements that use the pedestrian walkway. However, when pedestrians haphazardly walk onto the road, accidents will happen

## OBJECTIVES

The objectives were to evaluate the level of satisfaction of users of the walkway, assess physical elements of the pedestrian walkway and recommend how to improve the pedestrian walkway towards more safe, comfortable and accessibility. thus suitable actions could be implemented by the authorities.

## METHODOLOGY

In this study, data was obtained through a survey using a questionnaire. An enumerator each was stationed at Jalan Tok Hakim, Jalan Tengku Chik, Jalan Post Office Lama and Jalan Tengku Besar, Kota Bharu. Each enumerator distributed the questionnaire randomly to pedestrians/users of the street. This data collection used a sampling method by means of purposive sampling also known as judgment, selective or subjective sampling is a reliable random sampling method based on the justification and criteria of the researcher to determine the sample population to participate in the study (Black, 2013, Saunders et al., 2019).

Upon the end of MCO restrictions in Kota Bharu on 8<sup>th</sup> May 2021, the researchers collected the data during the recovery phase in November 2021. However, the public generally was still very cautious and public interaction was very minimal. The enumerators and respondents wore masks and kept strict social distancing. Data was collected from 68 respondents. Questionnaires were distributed to pedestrians, in front of commercial lots and in front of the mosque.

The responses in the questionnaire used a Likert type scale from "1" (least satisfied), "2" (unsatisfied), "3" (neutral), "4" (satisfied) to "5" (most satisfied) and the respondents selected/ticked their preferred response.



## FINDINGS

Elements	Mean (M)
Pedestrian walkway width by standard 5 feet	3.3881
Surface of pedestrian walkway	3.3433
There is a safety signage	3.2985
Information signs are easy to read	3.2836
Information signs for motorists clear	3.2239
Information signs for pedestrians clear	3.2090
Information signs for disableds clear	3.1791
Facilities disability well maintained	3.1642
There is a clear track to cross the road	3.1343
Pedestrian walkway through area of crime	3.1194
Height and width pedestrian walkway make it easy for users	3.1045
There is a lamp for night use for safety	3.0597
Facilities for the disabled	3.0000
Adequate street lighting	3.0000
The surface of pedestrian walkway is well maintained	3.0000
Landscape along the pedestrian walkway is well maintained	3.0000
Design of the pedestrian walkway attractive and comfortable	2.9254
Landscape along the pedestrian walkways	2.8955

Table 1 displays the means score for 20 perceived satisfaction items, ranked in descending order by mean value. The most reported satisfaction of pedestrian elements (mean response  $\geq 3$ ) involved pedestrian walkway widths followed by information signages, facilities, lighting and surfaces. The perceived elements of pedestrian walkway that were least or unsatisfied with reported (mean response  $\leq 3$ ) primarily included the design of the pedestrian walkway or landscape along the pedestrian walkways. This is consistent with analysis by Bhaduri et al (2019) which found that pedestrian walkway width was a strong factor in influencing pedestrians' perception of being satisfied with the walking environment.

## NOVELTY

Although the survey was conducted during the recovery period of the movement control order in November 2021, the respondents, enumerators and researchers successfully collected 68 responses from respondents, manually. However, the researchers followed strict procedures such as maintaining social distancing and hygienic procedures eg. Wearing face masks, applying hand sanitizers and constantly being alert about self hygiene during data collection stage.

## CONCLUSION

Based on the analysis, respondents are generally satisfied with several physical aspects of pedestrian walkway elements eg. Width and surface, because the current conditions of the pedestrian walkway in the study area is in relatively good condition and provides convenience for users to walk through. Also, there are clear crossings provided for road users, thus they feel safe to cross the roads. However, respondents said that the facilities and street furniture for pedestrian walkways such as information signage, and signage for the disabled are still lacking and in need of improvement and maintenance. Also, landscaping and lighting for the sidewalks on some areas still need maintenance to attract people to use the sidewalks.

## COMMERCIALIZATION

This study's findings of the satisfaction level of pedestrians towards walkways in a commercial area in Kota Bharu can provide significant insights to the commercial retailers within the study area on pedestrians preference, perception and opinions of walkways linked to their shops. The retailers could partner with the local Authority eg MPKB to place more informative signs/improve landscaping/hardscapes and softscapes to make their commercial area more attractive for shoppers and pedestrians.



Temporary pathway



Permanent pedestrian walkway

A "Complete Street" in Mexico City



Safe separation of pedestrian vs vehicles



Covered walkway



Public plaza



Safe separation of pedestrian vs vehicles